Sheet List

Block diagram

File: Block.kicad_sch

Power

File: Power.kicad_sch

MCU

File: MCU.kicad_sch

Audio and Misc

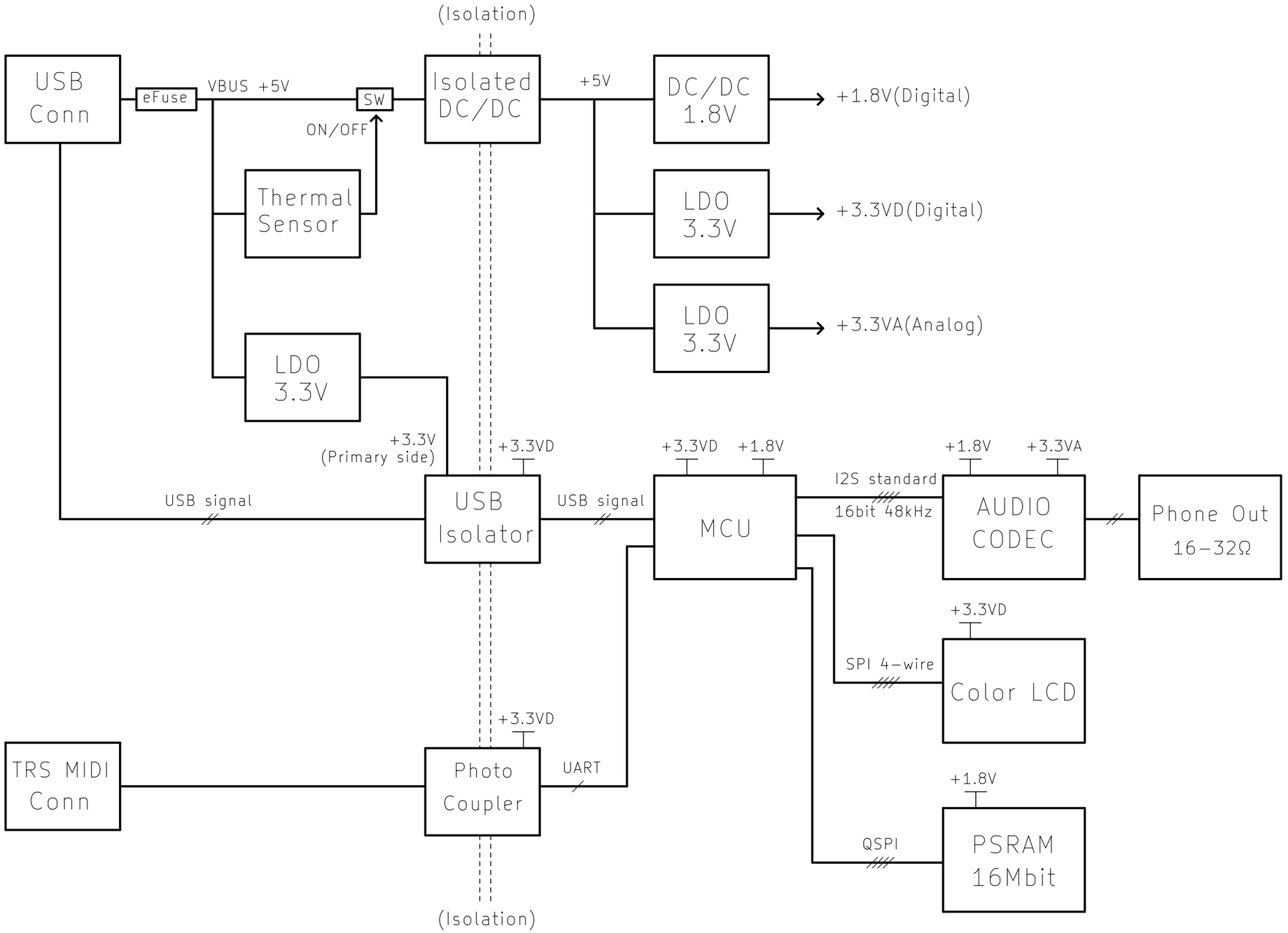
File: Audio.kicad_sch

Update History

Rev.No	*Date*	*Comments*
A1	2020-06-17	First revision.
A2	2020-07-05	Disconnect with VBUS to U1-P3(VDD1).
B1	2020-07-23	Change power structure to followings. - isolated(5V-5V) - DC/DC(5V-3.3V) - LDO(5V-3.3V) Change main MCU. (STM32F722RET -> STM32H750VBT)
B2	2020-08-25	Change Display interface to SPI.
C1	2020-10-01	Changed DAC. (PCM1774 -> WM8960)
C2	2021-02-06	Changed main MCU to 144pin model. (STM32F722RET -> STM32H723ZGT6) Changed MCU Voltage to 1.8V.
D1	2021-04-03	Divided into "main board" and "LCD board".
D2	2021-04-10	Modified M2 hole position. Divided into multiple sheets.
E1	2022-01-22	Kicad6.0にアップデート 基板形状の見直し 2次側の電源ICを変更 1.8V TPS62161DSG 3.3VD TLV76733DRV 3.3VA NCP711 リセットICをNCP303に変更 LCD基板へのコネクタピン数を変更
E2	2022-11-12	SWD端子にTVSダイオード追加 PSRAM追加 MIDI IN追加 UARTデバッグ端子削除 ハードウェアバージョン認識ピン追加
E3	2022-11-14	MIDI RXピンをPE7->PF6に変更
E4	2022-11-29	回路の変更なし GNDベタ形状・部品配置を調整
E5	2023-01-03	回路の変更なし 部品配置を調整

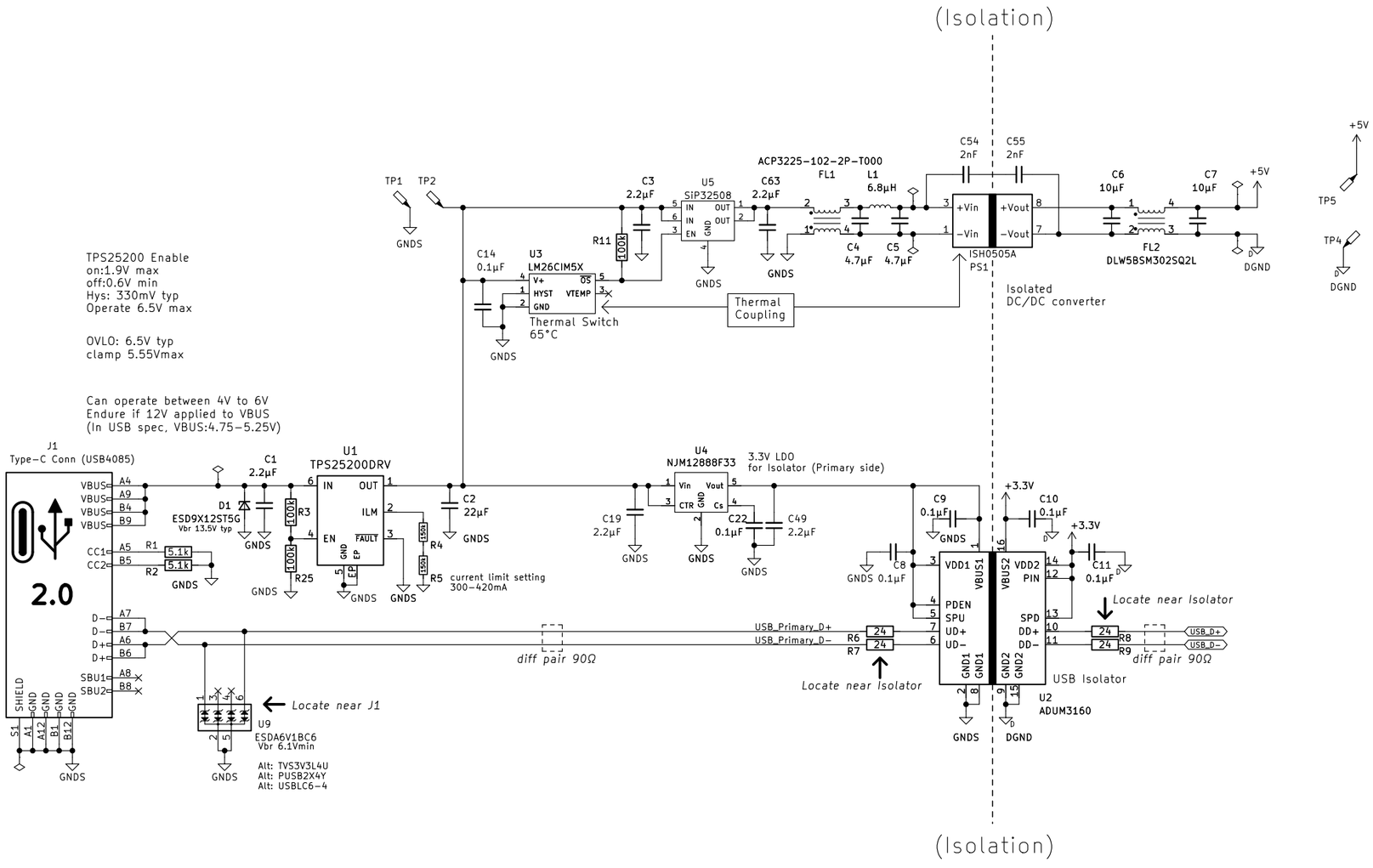
CureSynth mini main board	Sheet: 1/5
Date: 2023-01-03 (Rev:E5)	Tool: KiCad E.D.A. kicad (6.0.9)
chibi-synth with STM32H723	

Block Diagram

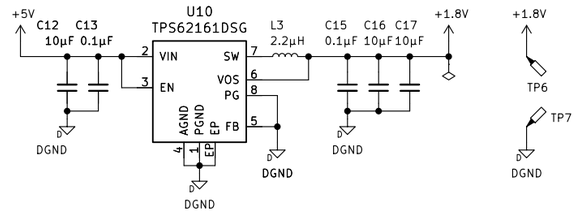


CureSynth mini main board	Sheet: 2/5
Date: 2023–01–03 (Rev:E5)	Tool: KiCad E.D.A. kicad (6.0.9)
chibi–synth with STM32H723	

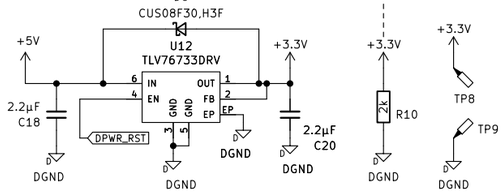
USB and Power Block



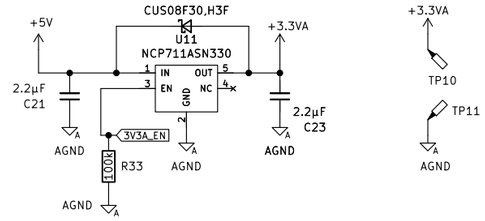
[1.8V Digital]



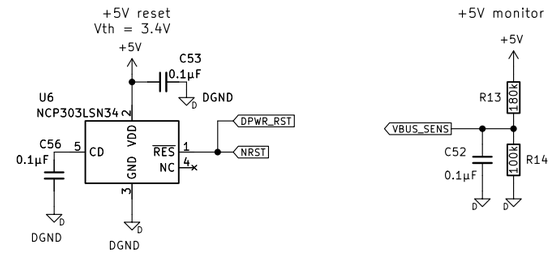
[3.3V Digital]



[3.3V Analog]

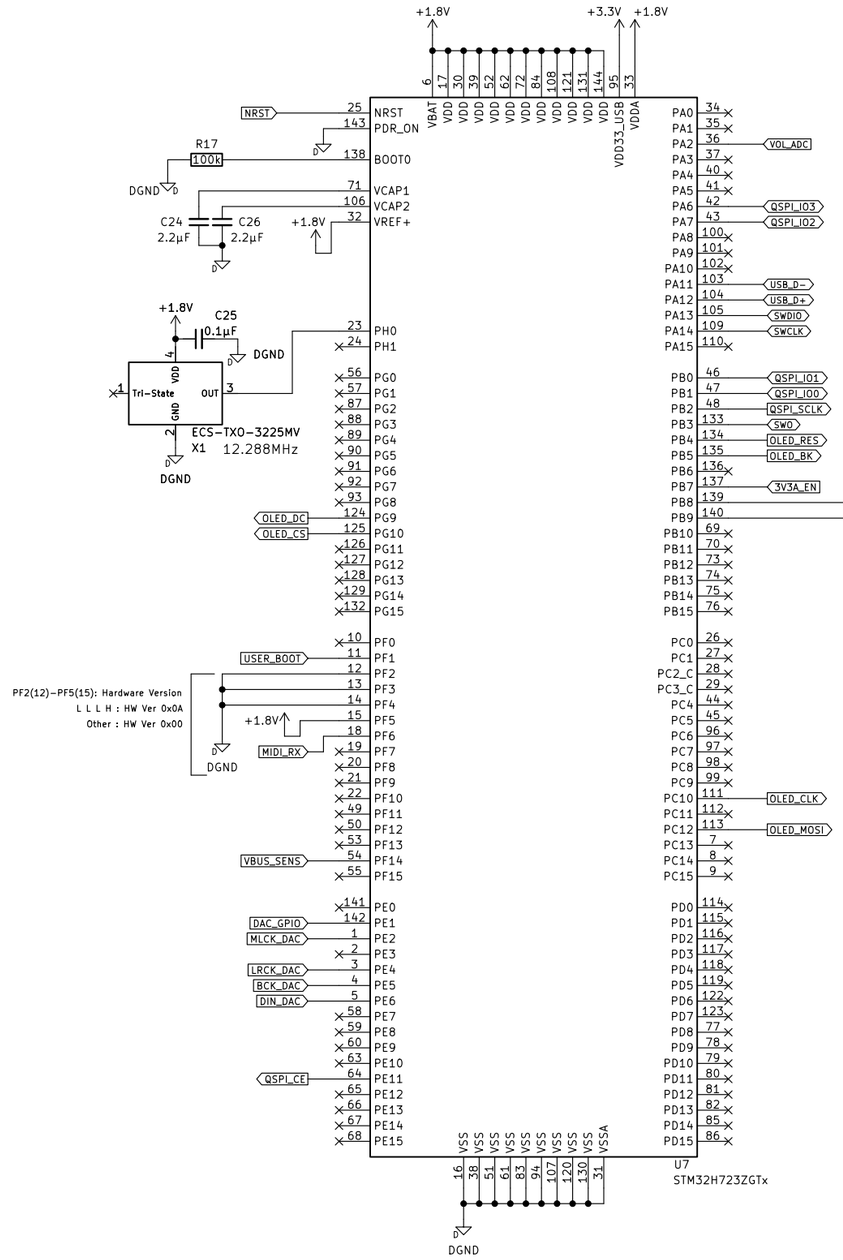


[Power monitoring]

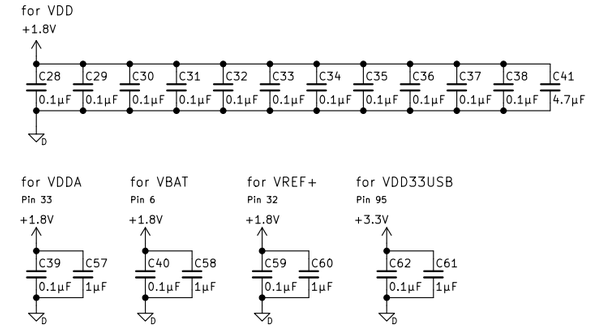


CureSynth mini main board	Sheet: 3/5
Date: 2023-01-03 (Rev:E5)	Tool: KiCad E.D.A. kicad (6.0.9)
chibi-synth with STM32H723	

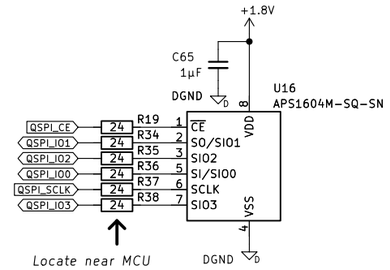
MCU



[MCU Bypass Capacitors]

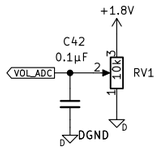


[PSRAM]

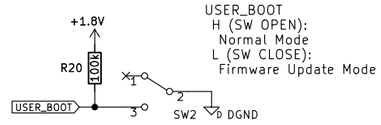


[Knobs and Switches]

Volume knob

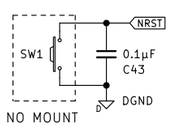


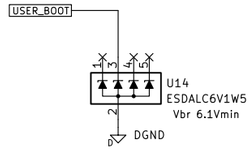
Boot SW



USER_BOOT
H (SW OPEN):
Normal Mode
L (SW CLOSE):
Firmware Update Mode

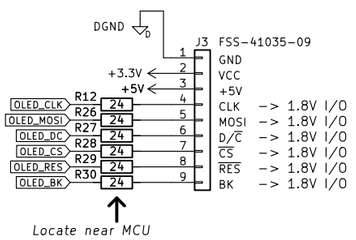
Reset SW



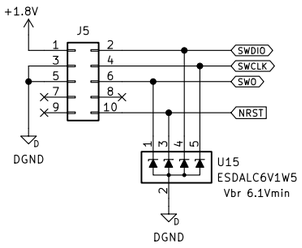


I/O

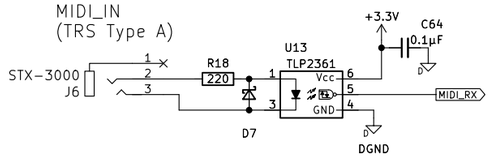
To Display Board



Debug Conn (SWD 10P)

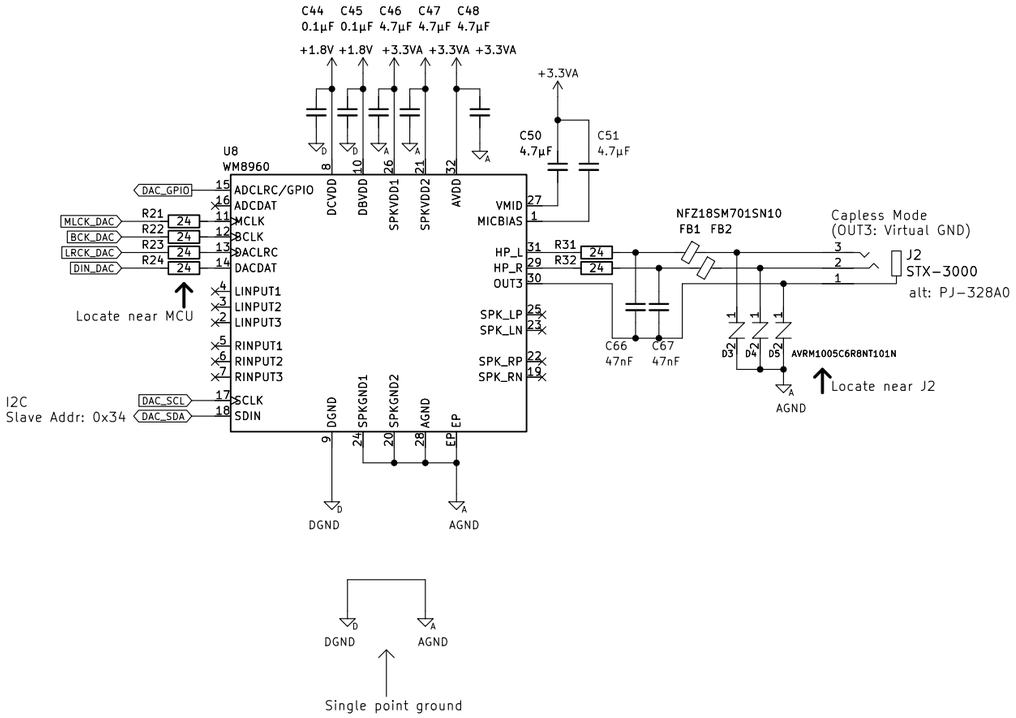


MIDI_IN
(TRS Type A)



CureSynth mini main board	Sheet: 4/5
Date: 2023-01-03 (Rev:E5)	Tool: KiCad E.D.A. kicad (6.0.9)
chibi-synth with STM32H723	

Audio Out



Misc.

Mounting hole to case
M3

H1 H2 H3 H4

Mounting hole to sub pcb
M2

H5 H6 H7

Logo Mark

CureSynth Logo

CureSynth mini main board	Sheet: 5/5
Date: 2023-01-03 (Rev:E5)	Tool: KiCad E.D.A. kicad (6.0.9)
chibi-synth with STM32H723	